Glenwood Springs Parking Task Force
Parking Recommendation

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Prepared for
Glenwood Springs City Council

March 26, 2003

Parking Recommendation

Table of Contents

I. Executive Summary

Downtown Glenwood Springs has a parking problem. Trying to accommodate businesses, residences, tourist attractions and the people associated with each is an important task for the City of Glenwood Springs. In tackling these parking issues, a Parking Task Force was assembled and the Task Force's primary objectives were to study parking in the downtown core and recommend parking solutions for Glenwood Springs.

The Task Force identified three main groups that parking effects most dramatically. These groups are employers/employees working downtown, shoppers/tourists visiting downtown, and residents living in the downtown area. These groups have unique parking concerns that need to be addressed differently. This recommendation took the three groups into consideration and attempted to maximize parking happiness within each.

In coming up with recommendations the main goals were to provide more customer spaces and to improve the quality of downtown residential parking opportunities. Unfortunately, these will likely come at the cost of making the downtown employees walk longer distances from their parking spot to work and could result in more people parking further into the residential areas. However, this could create the need of employees and employers to change their habits and begin utilizing non-vehicular methods of coming downtown.

The recommendation can be summed up as a three-part study, which initially quantifies parking shortages and the sources of demand influence within Glenwood Springs' downtown. The study continues by seeking those particular 'parking-alternatives' that meet the community's needs while mitigating parking shortages, either through transportation alternatives or enhancements to the existing parking. A reoccurring theme throughout alternative discussions is that there could be transit related alternatives that we may not have identified and/or may require further exploration by a transportation specialist as a 'next step' in continued planning development.

The third part of the study acknowledges that alternatives cannot alone deal with the sheer magnitude of Glenwood Springs' parking shortage and must be conjoined with new parking to be successful. Prospective locations for new parking are examined and a parking structure as the success of a Public/Private Partnership, that when built will work with the alternatives and present a comprehensive and systematic approach to balancing parking need with resource allocation.

The Parking Recommendation is comprehensive in nature, as careful consideration was given to traffic flow implications, pedestrian access and overall fit within Glenwood Springs' character. Additional considerations involve the diversity of need presented across the downtown area. Being one component of a larger picture, this recommendation is created in the spirit of being a chapter of sequential and concurrent studies and analysis being undertaken by and for Glenwood Springs. We hope that the Parking Recommendation meets with the approval of the private and public sector and a long-term relationship between the two can be formed.

II. Data Collection

In an effort to better understand and improve the parking situation in downtown Glenwood Springs, the City conducted a field survey during peak tourist season. The dates chosen were Thursday and Saturday, August 15th and 17th, 2002 to study both weekday and weekend situations. Working in 4 different routes, 2 shifts of surveyors covered the entire downtown between 7 am and 7 pm. At any given time, four surveyors wrote down license plate numbers on specified routes, two surveyors approached people who had just parked to answer a questionnaire, and one supervisor was available for help.

The data in the study is grouped into three sections. The first is the parking utilization survey, which contains hourly parking occupancy rate and parking duration rate collected by the surveyors who wrote down license plate numbers. The occupancy rate determines how full the module (block of spaces) of parking spaces were and the duration rate is how long cars were parked without moving.

The second data set is an estimate of the supply and demand for parking within the study area. This information was collected to backup and enhance the utilization survey. The estimates started with the County Assessor land use information for each parcel. A separate document lists all the assumptions that were necessary in determining the parking demand for employees, customers, and residences on each parcel. This document can be found in Appendix A.

The third data set is the questionnaire taken on the street during the same time as the parking utilization survey. This questionnaire was used to gather additional information from the people parking in downtown. Its purpose was to gauge satisfaction with parking, understand trip destinations, and length of stay in downtown Glenwood Springs.

a. Parking Utilization Survey

On the south side of the river the peak demands occurred at 1:00 pm on Thursday and north of the river the peak was 1:00 pm on Saturday. The maps attached in Appendix B show the percent occupancy rate and parking duration rates for various surveyed parking modules (group of parking spaces). While the information was gathered and is displayed at the block face level, the information is for only one day rather than an average of many days in peak season. In order to offset this, the maps should generally be interpreted at the block size or larger level rather than the block face level.

i. South of the River

The map showing percent occupancy rates illustrates that a significant number of parking modules exceed the 93% occupancy rate, which means they are either full or it would take excessive time to find the last few open spaces. Some of the higher rates were recorded just outside the 2-hour parking areas, reflecting the significant office/employee population that tends to park for 8-hour periods. Unfortunately, these people are often parking in the residential areas, especially between Grand Avenue and the elementary school and somewhat on Blake Avenue.

The areas along Grand Avenue show lower occupancy rates, which is probably due to the 2-hour limits and the vacancies created by cars coming and going. This is reflected on the average hourly parking duration map. As expected, the 2-hour limit areas have lower duration rates than areas farther from the core. The map shows many (16 out of 39) block faces exceeding the 2-hour limit. It is unknown if this is due to the presence of permitted cars in these spaces or due to violations.

On Saturday, the maps show far less occupancy south of the river due to the predominant office related land uses. The duration rates in 2-hour zones on Saturday are similar to those on Thursday despite no enforcement on the weekends. This is probably due to a lower demand for extended parking needed by workers.

ii. North of the River

The Saturday percent occupancy map shows very high level occupancy rates around the Hot Springs Pool and Hotel Colorado. These rates slowly taper off in the residential areas with distance from the Hotel Colorado. The parking duration rates show slightly more turnover in areas around the Hot Springs Pool than the rest of the area, which is probably simply due to turnover at the pool.

Interestingly, the information from Thursday's survey north of the river is quite similar to Saturday. However, on Thursday Maple Street has higher occupancy while the Hotel Colorado is slightly lower and the Hot Springs Pool area remains the same. The higher rate on Maple Street is probably due to the additional workers added during the week. The parking duration rates are nearly identical for both days.

b. Demand/ Supply Estimate

The demand vs. supply estimate was developed for areas south of the river and utilized data from 1:00 pm on Thursday since this was the peak time. This estimate was not developed for areas north of the river because of the difficulty in estimating how many people are driving to the Hot Springs Pool and other attractions. The parking demand figures were broken down by customers, employees, and residents since each has different parking needs. Despite the numerous assumptions required, the estimates correspond well with the percent occupied figures from the utilization survey. They also correspond very well to a separate estimate of the total number of employees in the downtown area done by the Downtown Development Authority.

In order to judge how well the 2-hour parking supply is meeting the customer demand, the data was broken down by blocks. While the map shows many of the blocks are deficient, these numbers are the result of numerous assumptions and thus the figures should be treated as indicators rather than literal facts. The map suggests the biggest areas of deficiencies are around the corner of Grand and 8th. The blocks on the NE and NW corner are of particular concern because they do not have as much parking available on the next block over as occurs with the SE and SW corners.

The City Hall/Jail/Courthouse block shows a deficit but significant additional parking has been added to the west side of City Hall. The Denver Hotel block shows a deficit but this should be mostly relieved by the Denver Hotel's parking lot on the east side of Blake Avenue. The west side of Grand between 10th and 11th shows a deficit but this area is less of a concern since the utilization study showed the Grand Avenue street parking at less than 60% capacity. Table 1 below and accompanying map in Appendix B show the 2-hour supply vs. customer demand for various larger areas.

Estimates were made for the total parking demand (customer, employee, and residential) versus parking supply for various areas south of the river. Zones B and C in table 1 show very high demand vs. supply rates, 100% and 96% respectively. This is higher than the rates found in the utilization study. This reflects the spillover that occurs in the residential areas to the south.

The rates, shown in table 1, in the D1 (58%) and D2 (37%) areas show significant extra capacity, which echoes the far lower utilization rates found on Saturday compared with Thursday. Larger areas were also studied as shown on the map. They also demonstrate how the residential areas surrounding the commercial core provide significant amounts of the core's parking capacity. Refer to the table below for more detail breakdown of the figures relative to the map in Appendix B.

Table 1
Summary of Parking Supply and Demand in Downtown Glenwood Springs

Comparison of Parking Supply and Parking Demand	Analysis Area						
	South of River	River to 10th, center of Bennett to all of School	Zone B	Zone C	Zone D1	Zone D2	Zones B, C, D1, & D2
Parking Supply							
Private	1213	872	323	330	184	179	1016
All Public	1586	1088	353	355	277	414	1399
<= 2 Hr Public	382	376	134	147	47	54	382
Total Supply	2799	1960	676	685	461	593	2415
Parking Demand (1:00 p.m. weekday)							
Residential	585	382	37	251	81	140	509
Employees	903	830	474	227	141	54	896
Customers	421	393	165	179	46	26	416
Total Demand	1909	1605	676	657	268	220	1821
Supply less Demand	890	355	0	28	193	373	594
% Demand of Supply	68%	82%	100%	96%	58%	37%	75%

c. Parking Questionnaire Survey

The interview questionnaire showed that the majority (83%) of people questioned were relatively pleased with their parking experience. Detailed results of the Parking Questionnaire can be found in Appendix C. Of those that felt that the parking was inconvenient or very inconvenient, the majority were weekday office workers from down valley. Half of these people were parked less than one block from their destination. When looking at the raw data it appears that the negative responses are not justified because of the relatively short walk to their destination. However, possible contributing factors to their dissatisfaction might have been the time it took to find their parking spot or prior bad parking experiences.

On Saturday, only 17% of the respondents were dissatisfied. Of these the majority of negative responses came from Out-of-Area guests on the north side of the river. Of this group 57% parked less than 1 block away from their destination. The above reasons may also explain this groups' dissatisfaction despite being able to park less than a block away.

d. Conclusions

The survey revealed much of the anecdotal information that many citizens of Glenwood have surmised about downtown parking. North of the river, the Hotel Colorado and Hot Springs Pool create parking demands that spill over into the residential areas, especially on the weekend.

South of the river, office workers are the predominate land use and thus the majority of the impacts relate to the 8 to 5 workday. It is apparent that these office workers spill over into the adjacent residential areas on Colorado, Pitkin, and Cooper Avenues. These neighborhoods developed long before street parking during the day was a problem. It appears that most lots were thus laid out to maximize the outdoor living space rather than utilizing their alley parking. Conversion to alley parking can be difficult or impractical.

The survey also showed that current enforcement practices may not be sufficient deterrent to exceeding 2-hour limits and violations are spread out over the entire area rather concentrated in one or more areas. More importantly, surveyors noted that a significant number of cars were moved to a nearby space in order to avoid the 2-hour ticket. Also, many individuals have expressed that some workers continually park in convenient 2-hour spaces, move their cars to avoid tickets occasionally, and if they get a ticket just consider it a part of doing business.

The estimates of parking demand versus parking supply show that the retailers between 7th and 8th and Colorado and Cooper probably have an insufficient 2-hour parking supply available to their customers based also on the demand in adjoining blocks. Other retail areas would generally have enough if the 2-hour limits are adhered to and customers walk at least one block.

It appears that both north and south of the river insufficient parking exists for current business and thus significant spillover occurs into historic residential areas that do not generally have sufficient on-site parking. Also, the current "2 hour shuffle" probably hampers downtown businesses due to the lack of convenient customer parking.

III. Parking Management Toolbox

There are advantages and disadvantages associated with every parking management tool. The following is a brief discussion of the potential management tools available to Glenwood's downtown along with its merits and pitfalls.

Meters - Meters are widely used in downtowns because they create a revenue stream and a financial disincentive to occupying choice parking locations for more than necessary. On the downside, they create a payment hassle that can discourage customers if comparable shopping with free parking is nearby and they add to the administrative costs. Newer meter technology is available that allow credit card payment.

Parking Permits - Parking permits are often used in conjunction with meters and allow the owner to park in metered spots without having to pay the meter. Permits can be directed to different user types with the desired cost. Permits add complexity, administrative costs, and the necessity of a well-designed system in order to avoid undesirable consequences or abuse.

Restricted Public Spaces - Certain publicly owned spaces on or off street can be designated to certain user types. For instance, in the residential areas some of the street parking could be designated for residences, utilizing a permit system. Potential difficulties would be fairly distributing the spaces in close proximity to all the residents, while not overly complicating the locations of allowable public parking. This would also add to the administrative costs, reduce available long-term parking currently available to workers.

Reducing Parking Demand - It is advisable to reduce the need for parking downtown since parking areas create "dead zones" and replace other more enlivening land uses. While it is difficult to change habits, a combination of efforts could be successful. In addition to the Transportation Demand Management techniques the City is already pursuing, possible methods would be creating remote parking lots with a shuttle service and preferred parking spaces for carpooling.

Increase Long-term Parking Supply - Increasing the long-term parking supply for employees with a parking garage or additional surface parking is possible but expensive. It would have to be combined with other techniques to ensure that employees utilize the new spaces rather than residential areas or the convenient short-term parking areas.

More Categories of Time Limited Parking - Increasing the categories of time limited parking allows for more control over the desired turnover in various locations. This provides parking opportunities for the quick, medium, and long shopping trip with proportional parking convenience. This does create more complexity for the public and difficulty in setting up the parking officer routes.

New Development Regulations - The City could require new development to build more parking or charge a fee in lieu of payment for new development that generates a demand for more parking. The City would have to determine how much burden is fair to place on new development to fund more parking and consider the impact the fee would have on deterring new development.

Public Vehicle Parking Locations - The City should continue to require its employees and low use public vehicles to require on the periphery of the downtown. This has symbolic value to the business community. Efforts to encourage other large employers to do the same should also continue.

Improve Signage - As downtown parking management becomes more complex, so too does the signage needs. Highly visible and user-friendly signage is especially important for visitors and can help minimize the time it takes to park. In general, people will walk farther to their destination if it means less time hunting for a parking space.

IV. Recommendations

The following recommendations are based on the above-mentioned concepts, ideas, and surveys. The recommendation is broken into three phases to address the most urgent problems first and to build organization for the more complicated solutions.

a. Phase 1

Phase 1 of the parking recommendation has already been implemented. The Task Force has taken a directive from the City Manager and City Council on some particular changes to address the immediate needs of the residents and employers/employees in the downtown core. The changes that are currently in effect or will be in effect in the near future are:

1. Acknowledge the contribution that TDM measures can make toward parking solutions.

By educating employees through their employers on different options besides close-in parking, the result would be less parking congestion and increased parking for customer use. By promoting TDM measures and increasing the knowledge of carpooling, vanpooling, and bus use, employees will have attractive alternatives to parking in the downtown core. Specific carpool/vanpool parking spots should be designated in the downtown lots as an incentive to those carpooling/vanpooling to work and a disincentive to those who wish to drive alone and park on the fringes of downtown. Additional Park and Ride lots should be provided to those wishing to use alternate transportation compared to driving alone when coming downtown. In addition to motorized transportation alternatives, bicycle and pedestrian efforts can decrease the need for cars in the downtown core and encourage people to walk and/or bike to their destination.

2. Dedicate the old MOC lot on 7th Street as 8-hour free parking.

City employees are required to park in this lot if they drive to work. County staff, CMC staff, and other all-day downtown employees are strongly encouraged to use this lot for all day parking. City staff are encouraging others asking for additional all-day parking resources to utilize that lot as well.

3. Cease the selling of 2-hour exemption parking permits to the public.

The parking permits were no longer available to the public on March 10, 2003. Permits were sold for a month, for 6 months, or for a year. On March 10, there were 29 active permits. By July 2003 there will be 13 permits in effect and by September 2003 there will be less than 10 permits in effect. By Feb 2004 all of those permits expire.

4. Create more short-term 2-hour parking in the downtown residences.

These areas include Pitkin Street from 8th to 10th, Blake Street from 7th to 8th, and Colorado Street from 9th to 10th. Signs are up and bagged and the new parking restrictions will go into effect following City Council reviewing this document.

5. Create permits for residents in the downtown core.

With more 2-hour parking being created in the residential areas, permits are being issued to residents living in the affected areas. Each residence in the downtown core will receive one residential permit and one guest permit. An example of the

policies for the issuance of those permits is detailed in Appendix D of this document.

6. After two months, analyze the abovementioned changes before the first stage of Phase 2 is implemented.

With the elimination of the all-day parking spaces in the residential areas and replacing them with 2-hour parking, the effects of that action must be analyzed to determine the outcome. If all-day parking is moving out further in the residential areas, occupying resident's spaces, and there are unutilized spaces on the 2-hour residential streets, then a change in policy may have to take place before additional 2-hour parking, as suggested in Phase 2, is implemented.

b. Phase 2

This phase of the parking recommendation is directed to encourage acceptance of changes in parking measures as well as implementing changes to the current parking system.

1. Create additional 2-hour parking in specific lots within the downtown core.

The additional 2-hour parking is to be implemented in specific lots in downtown Glenwood Springs. The Task Force recommends the lots on the corner of 7th Street and Colorado providing additional 2-hour parking for 47 cars and the other is the lot on 9th and Cooper where the first two rows of parking would change to 2-hour for 24 cars. In addition to creating these new parking limits, provide attractive parking signage indicating to people that public parking is allowed in that location. The Task Force supports the widening of the pedestrian ramp adjacent to the Grand Avenue Bridge making downtown Glenwood Springs pedestrian friendly. With the widening of the ramp, eight 2-hour spaces will be lost, but the 71 additional 2-hour spaces created in the nearby lots offset the loss of those 8 spaces. The Task Force also supports an expanded bus service to promote a more pedestrian friendly downtown and alleviate the need for large amounts of all-day parking opening parking up for customers of the downtown businesses.

2. Provide additional all-day storage parking on the fringes of downtown.

In addition to the Old MOC lot designated in Phase 1, all-day parking should be provided in the old County shops property that is to be purchased by the City. This would subsidize the increased number of 2-hour parking in the abovementioned designated lots and residential areas for customer use while providing parking for employees of the downtown businesses.

3. Monitor parking changes and effects on downtown parking situation.

It is recommended, with the implementation of the new 2-hour parking in downtown, that the effects on the downtown residences be closely monitored by City staff to ensure that the all-day parking congestion is not moving to the fringes bordering the 2-hour zones of the downtown core. Additional monitoring of occupancy of the 2-hour parking areas, as well as the all-day areas, to determine if they are being effectively utilized is also recommended. A yearly review of the downtown parking situation should be done to understand if the recommendations that have been implemented are effectively improving the parking situation in Glenwood Springs. If the reanalysis shows that the changes implemented are not effectively improving the parking situation then additional recommendations should be made.

4. Provide clearer signage to direct people where to park if coming downtown

Clear signage will assist visitors as well as regular parkers in determining the appropriate parking spot to use. Prior to the implementation of the parking changes, attractive public parking signs should be displayed on street corners directing people where to go as well as attractive signs in the lots themselves, an important part of customer service. There are parking lots in Glenwood Springs that are privately owned and a distinction should be made clear with attractive signage.

5. Promote a Public/Private Partnership with the downtown businesses.

This partnership is aimed at the City (the local government) and the Hot Springs Pool and Lodge (the biggest attraction) to increase communication between the two entities and create solutions that benefit both parties' agendas. The Task Force recognizes the solution to the parking problems in downtown Glenwood Springs north of the river is in this Partnership. The Partnership should also include the other lodging entities to create ways to have tourists not drive and park in the downtown area. A more pedestrian friendly downtown, including shuttle service and/or enhanced bus service for their guests, would discourage people from driving. The Task Force sees the DDA as a crucial link in this Partnership with downtown entities.

6. Begin the planning stages of a downtown parking structure to provide long-term parking.

A downtown parking structure would help alleviate the parking congestion in downtown Glenwood Springs and provide safe parking for those wishing to utilize it. Cooperation with the public and private sectors is needed to determine the best location for this structure and how to define the parking time-limits within it. The Task Force recognizes the DDA as the primary entity to be involved in the location as well as the funding for the parking structure.

The City has begun planning for a parking structure on property it owns near 8th & Cooper that was the former City Hall site. A structure at this location near the retail core would provide short-term parking opportunities for retail customers in this area and long-term parking for downtown employers/employees. If a parking structure is intended to serve the long-term parking needs of downtown employees and employers, a location west of Grand Avenue (where office uses are predominant) might be considered. The City owns property in the Confluence area within two to four blocks of these office uses. Experience in other communities has shown that incentives and disincentives, such as metered parking in retail areas and required permits in residential areas, may be necessary to get employees to use a parking structure.

c. Phase 3

This phase of the parking recommendation outlines the long-range solution recommended by the Task Force.

1. Construct a downtown parking structure.

A downtown parking structure is one solution to the parking problems in downtown Glenwood Springs and it is recommended that initial planning take place to determine if it is a feasible option. A parking structure may not be needed in the immediate future if the previous recommendations are implemented and are found to be successful. According to the 2002 - 2003 Confluence Study, there is limited demand for new retail construction in the south downtown area, customers should get the most convenient parking spaces relative to their destinations, sufficient customer parking is physically available (although currently not available) in convenient locations to the retail core south of the river, and the majority of all-day parking demand is west of Grand Avenue and south of the river. Based on the above a parking structure would mostly benefit downtown by reducing all-day parking of employees in residential areas and in customer areas.

2. Investigate changing the existing parking to metered parking.

Metered parking is expensive to install and requires additional infrastructure planning to make it a successful program. The task force recommends implementing other changes as suggested in the previous phases before installing metered parking. It is understood that metered parking is a source of revenue for the City, but could create less business in the downtown because there are other shopping locations providing free parking. Studying the effects of metered parking in towns with similar situations is a recommendation of the task force.

V. Conclusions

The recommendation can be summed up as a three-part study, which initially quantifies parking shortages and the sources of demand influence within Glenwood Springs' downtown. The study continues by seeking those particular 'parking-alternatives' that meet the community's needs while mitigating parking shortages, either through transportation alternatives or enhancements to the existing parking. A reoccurring theme throughout alternative discussions is that there could be transit related alternatives that we may not have identified and/or may require further exploration by a transportation specialist as a 'next step' in continued planning development.

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Appendix A: Downtown Parking Assumptions

Assumptions for the 2002 Downtown Parking Study

Parking Demand

The study area boundary is one block beyond the routes of the parking utilization survey. This was done to understand the parking demand and supply outside the survey boundary and its potential effect on the survey information.

Land use information for each parcel was gathered from the County Assessor database and supplemented with site-specific information where needed. Land uses were categorized into office, retail, restaurant, residential, lodging, and other. The churches, IOOF, FOE, and the Masonic Temple were deleted from the database because their impact is mainly at night or on the weekends and estimating their demand is very difficult. Also, because the Hot Springs Pool parking demand is very difficult to estimate, the area north of river was excluded from this portion of the study.

The following table has all the various factors that were needed to calculate the estimated hourly parking demand for all the existing downtown land uses. The time of day factors come from the 1983 Urban Land Institute study, *Shared Parking*. These factors are the accepted industry standard and were not modified for Glenwood Springs.

Hour	Office	Retail	Restaurant	Residential	Lodging	Other
6:00 AM	0.03	0	0	1	1	0.03
7:00 AM	0.2	0.08	0.02	0.95	0.85	0.2
8:00 AM	0.63	0.18	0.05	0.9	0.65	0.63
9:00 AM	0.93	0.42	0.1	0.87	0.55	0.93
10:00 AM	1	0.68	0.2	0.85	0.45	1
11:00 AM	1	0.87	0.3	0.85	0.35	1
12:00 PM	0.9	0.97	0.5	0.85	0.3	0.9
1:00 PM	0.9	1	0.7	0.85	0.3	0.9
2:00 PM	0.97	0.97	0.6	0.85	0.35	0.97
3:00 PM	0.93	0.95	0.6	0.85	0.35	0.93
4:00 PM	0.77	0.87	0.5	0.87	0.45	0.77
5:00 PM	0.47	0.79	0.7	0.9	0.6	0.47
6:00 PM	0.23	0.82	0.9	0.92	0.7	0.23
7:00 PM	0.07	0.89	1	0.94	0.75	0.07
8:00 PM	0.07	0.87	1	0.96	0.9	0.07
9:00 PM	0.03	0.61	1	0.98	0.95	0.03
10:00 PM	0.03	0.32	0.9	0.99	1	0.03
11:00 PM	0	0.13	0.7	1	1	0
12:00 AM	0	0	0.5	1	1	0
Parking rate	0.003333	0.002	0.01	1.5	1	1
Adjustment factor	0.75	0.45	0.34	NA	NA	NA
Employee share	0.8	0.2	0.33	1	0.1	0.8

The parking rates for “Office”, “Retail”, and “Restaurant” are per square foot. For “Residential” and “Lodging” the parking rates are per unit. Because of the wide variety of uses in the “Other” category, the parking rate is pre-calculated before entering it into the spreadsheet.

The “Office”, “Restaurant”, and “Lodging” parking rate comes from the City Code. The “Retail” parking rate has been lowered to reflect the more boutique style of retail in the downtown versus mall or big box style retail which typically has more customers. The “Residential” parking rate is a compromise figure between the 2 spaces typically required for single family homes and the 1 space required for single bedroom units often found closer in to the core of the study area.

The adjustment factors are a compilation of factors needed to achieve more accurate results. Since the “Office”, “Retail”, and “Restaurant” categories all are based on the heated square footage on each parcel from the County Assessor, they all received a 20% reduction to avoid counting storage, bathroom, and hallway in the area calculation. “Retail” was further reduced by 25% for seasonal variation and another 25% to account for people shopping downtown who are already there for other reasons such as office workers. “Restaurant” was further reduced 15% for seasonal variation and another 50% to account for people eating downtown who are already there for other reasons. The seasonal variation reductions come from the same 1983 ULI study, *Shared Parking*.

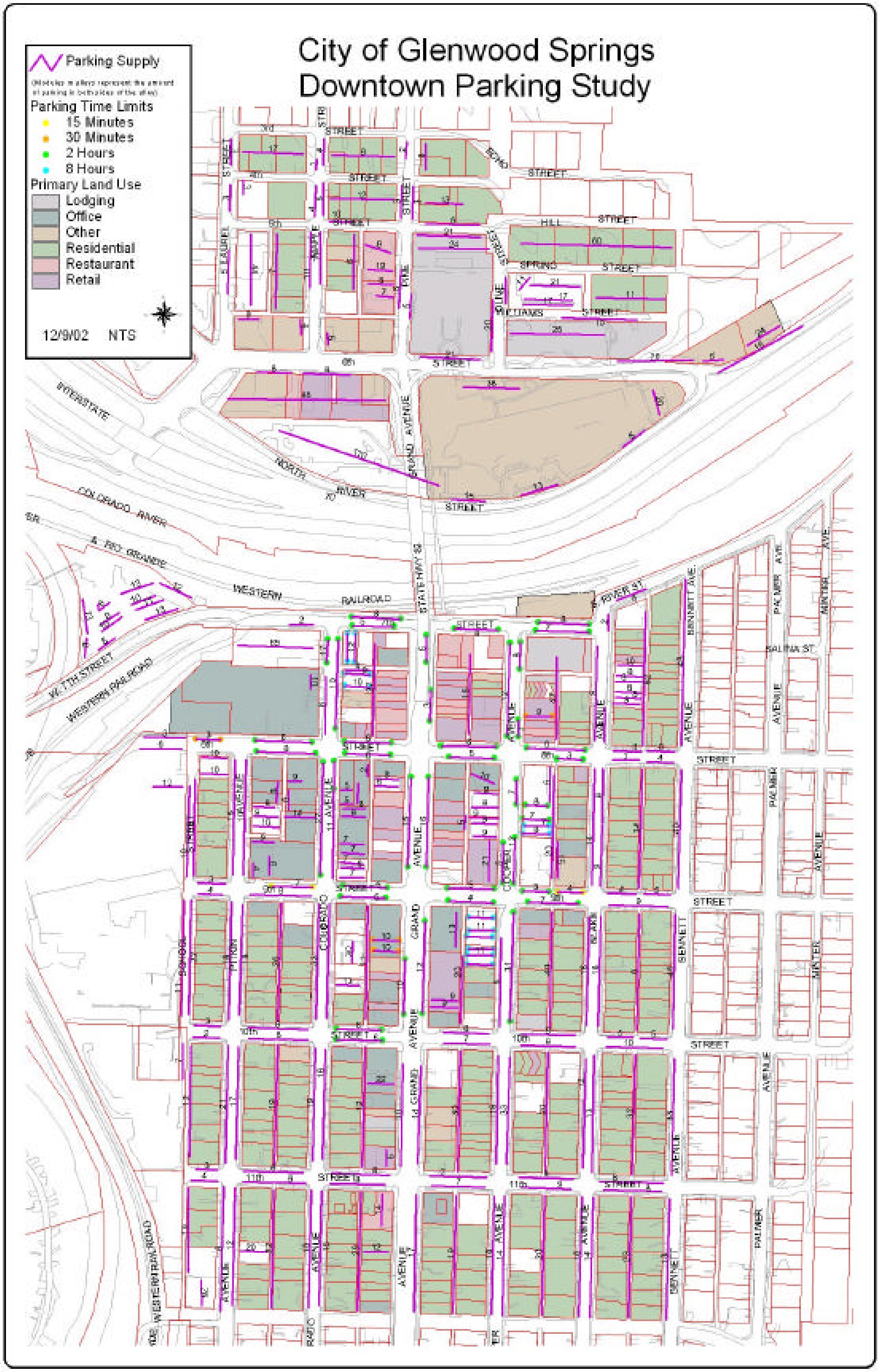
The “Employee Share” factors are needed to calculate the amount of parking generated by employees versus customers. These factors were developed by conversations between members of Glenwood’s Downtown Parking Task Force. These factors were not developed by rigorous statistical effort, but rather an intuitive estimate on how these businesses operate. Has a check on the accuracy of this methodology, the Downtown Development Authority estimate of the total employees within the study area is 1935 while the above methodology resulted in an estimate of 1924.

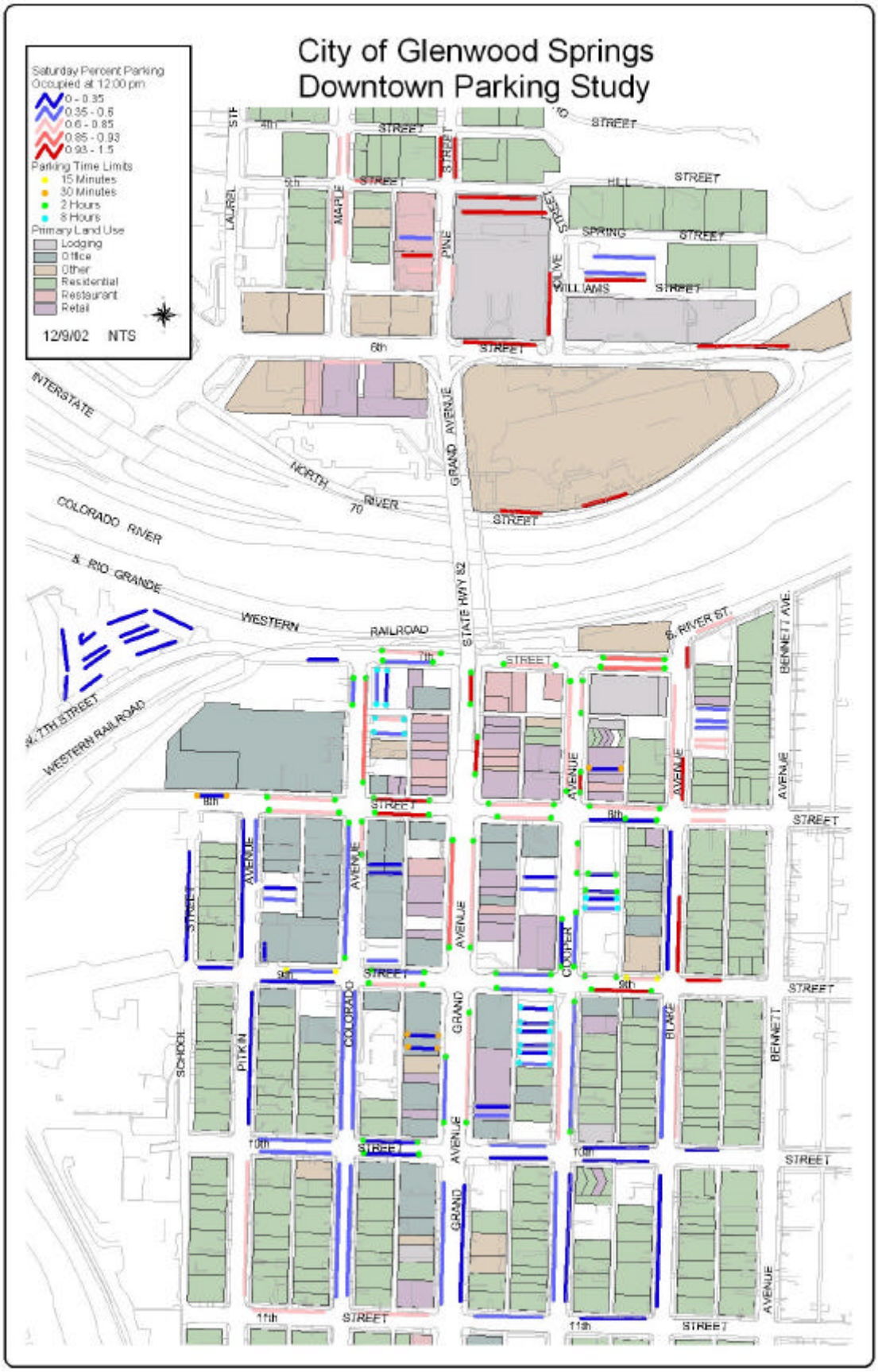
Parking Supply

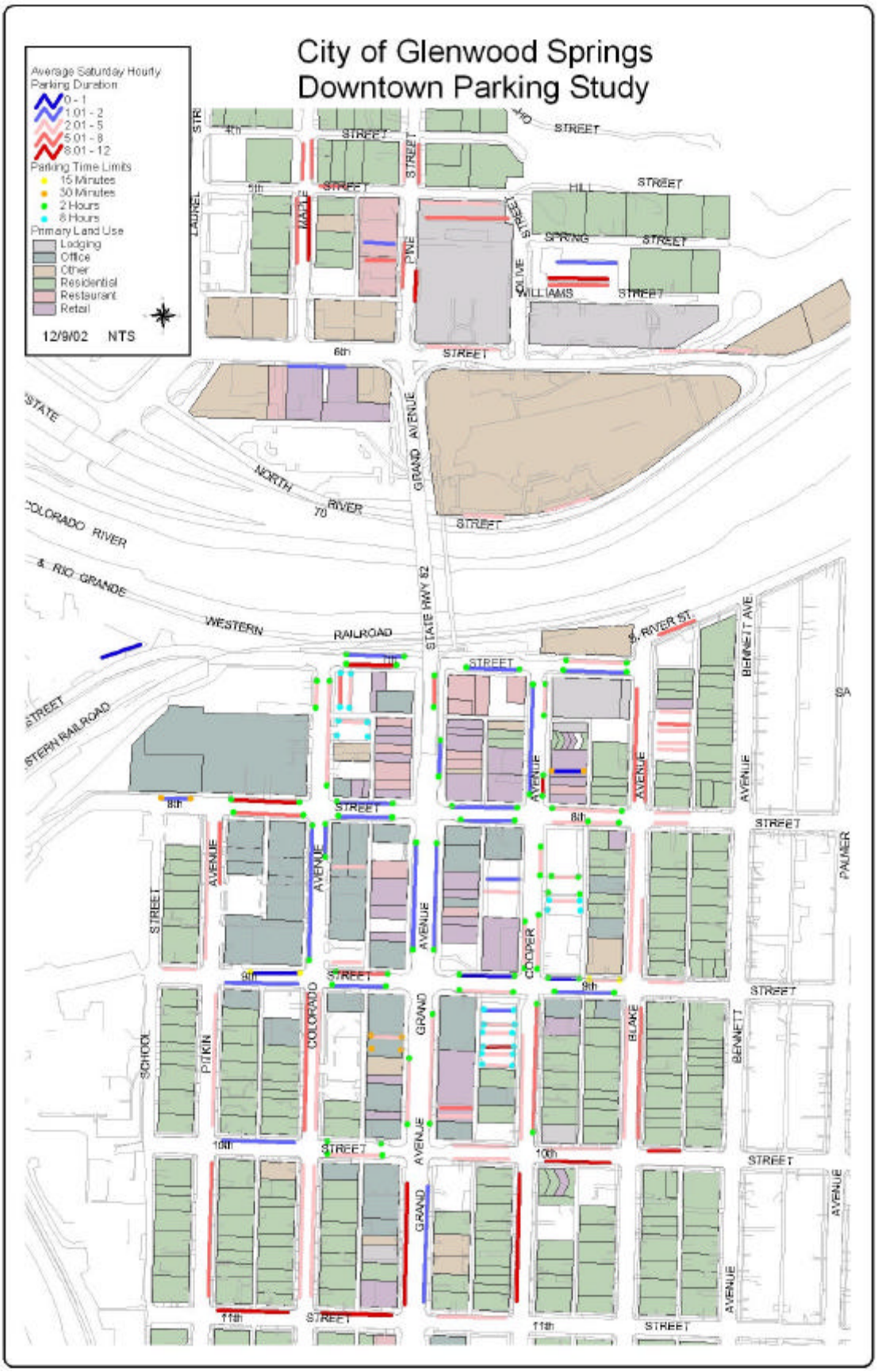
The parking supply numbers were generated by physically counting spaces on the streets, off the alleys, and on private property. Where street parking is not striped estimates were made for parallel areas by dividing the length by 20 feet and if the remainder was greater than 15 feet, an additional space was added. Best guesses were needed, especially off alleys, if it was unclear whether an area was used for parking.

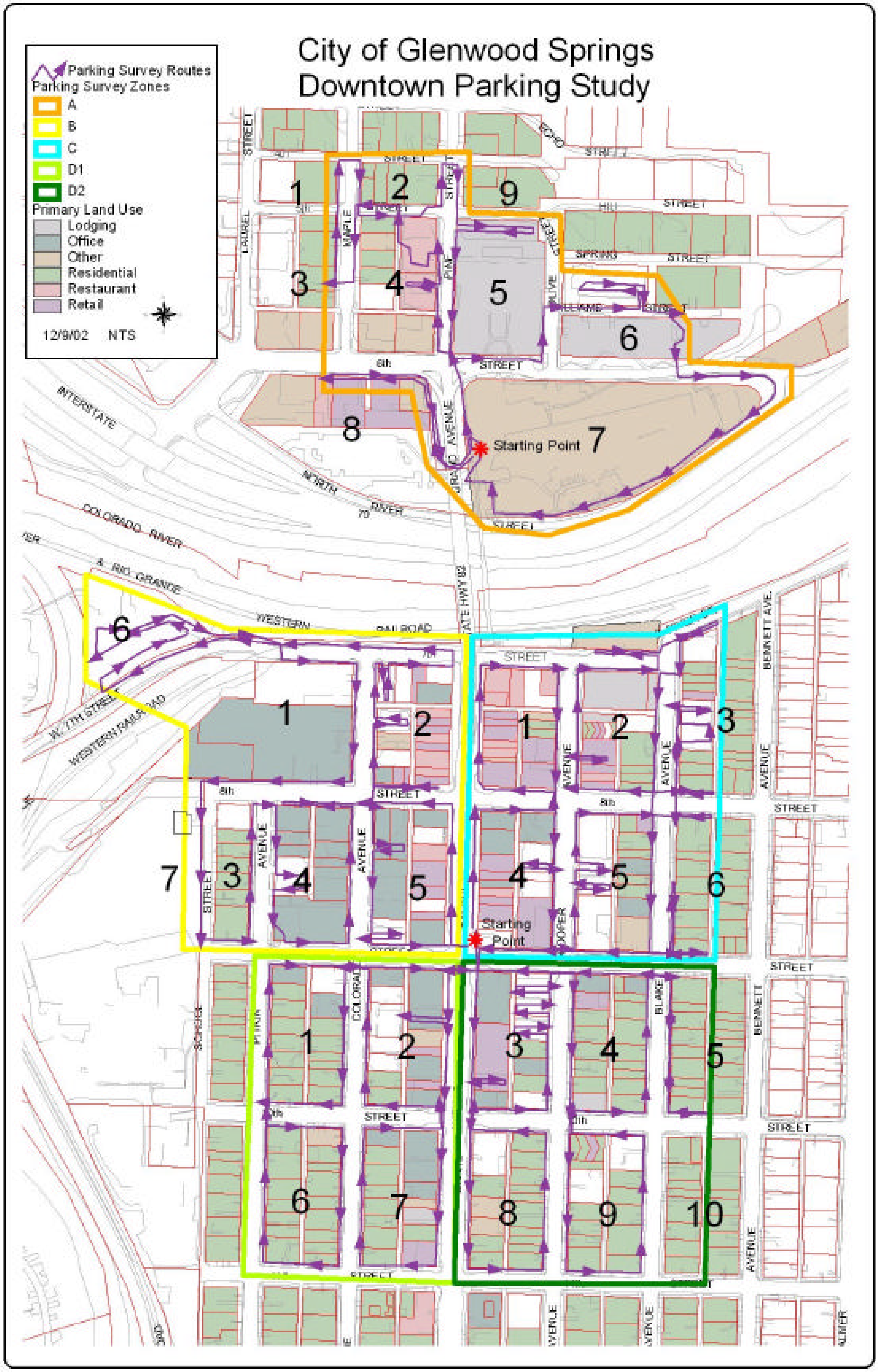
Appendix B: Downtown Parking Maps

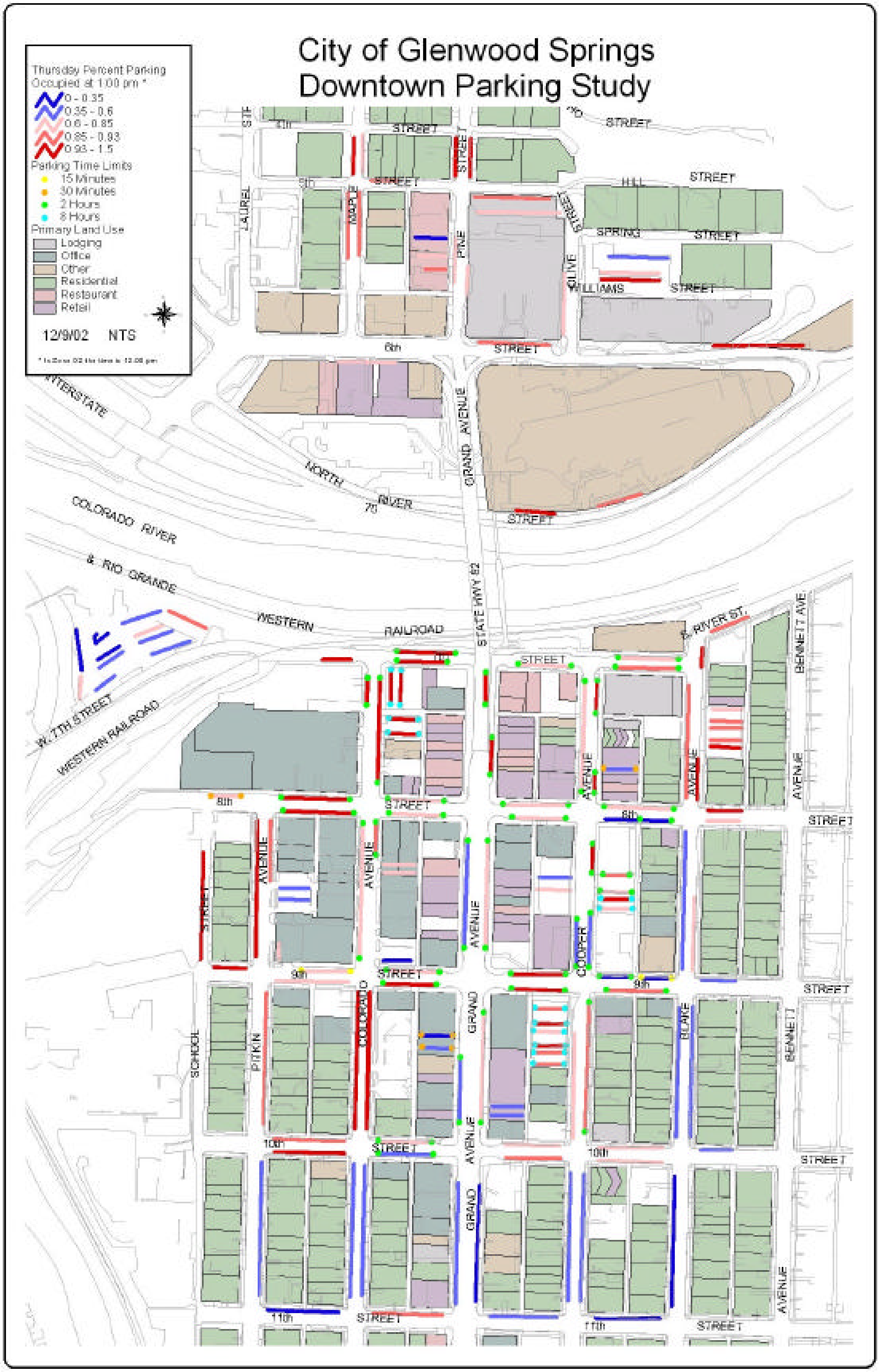

2-Hour or Less Parking Spaces minus Customer Parking Demand by Block
(S. of River = 421 Demand, 389 Supply)
Parking Areas Designated 2 Hours or Less
Parking Time Limits
15 Minutes
30 Minutes
2 Hours
8 Hours
Employee parking at 1 pm
1 Dot = 1
Customer parking at 1 pm
1 Dot = 1
Primary Land Use
Lodging
Office
Other
Residential
Restaurant
Retail
12/9/02 NTS
City of Glenwood Springs
Downtown Parking Study
RIVER
STREET
STATE HWY 82
RAILROAD
E. RIVER ST.
7th
8th
9th
10th
11th
STREET
AVENUE
-23
-8
-33
-7
10
-9
-17
39
20
-2
33
-15
SCHOOL
PITKIN
COLORADO
GRAND
COOPER
BLAKE
BENNETT
WESTERN RAILROAD

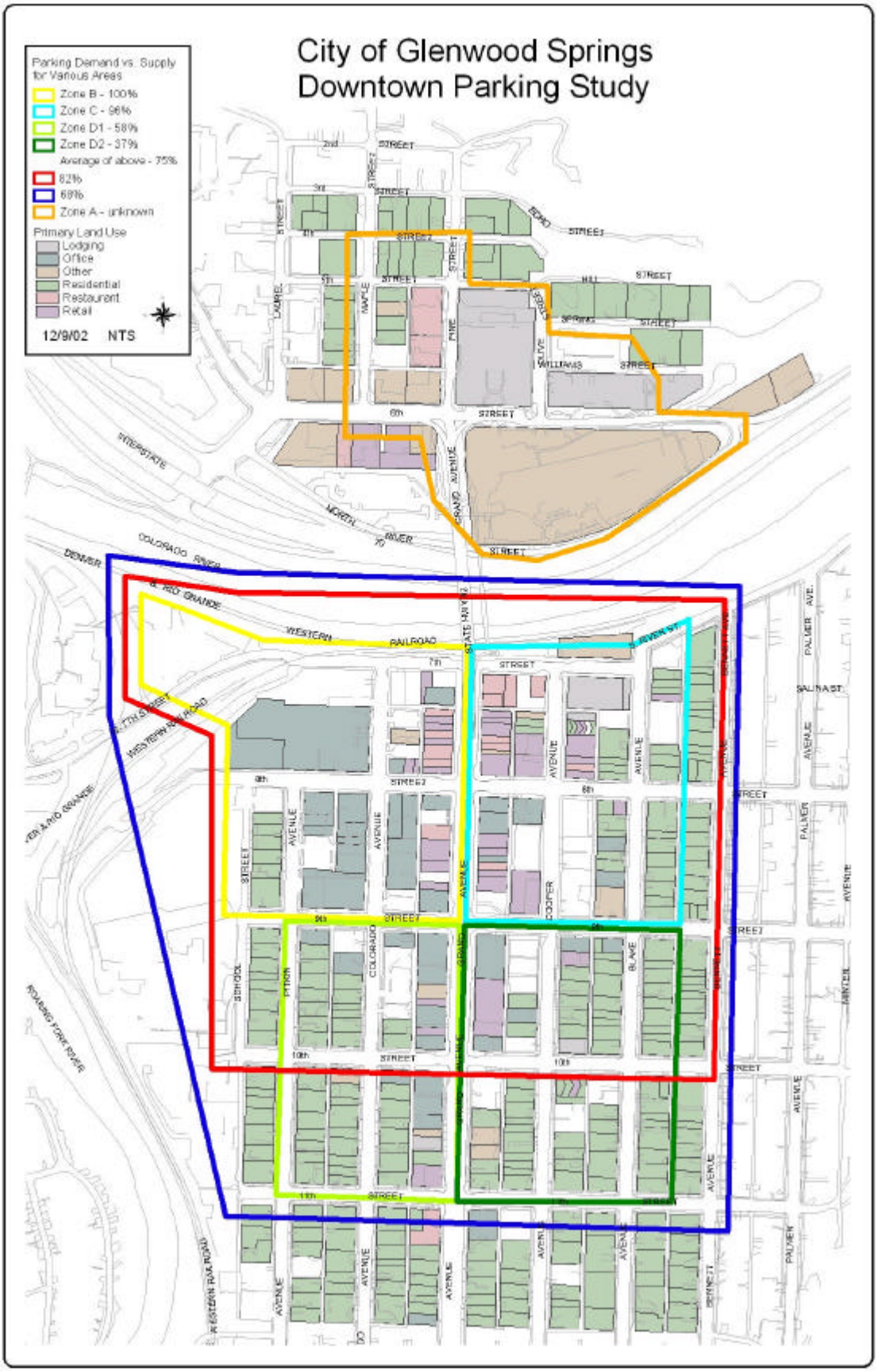

City of Glenwood Springs
Downtown Parking Study
Parking Supply
Parking Time Limits
15 Minutes
30 Minutes
2 Hours
8 Hours
Primary Land Use
Lodging
Office
Other
Residential
Restaurant
Retail
12/9/02 NTS

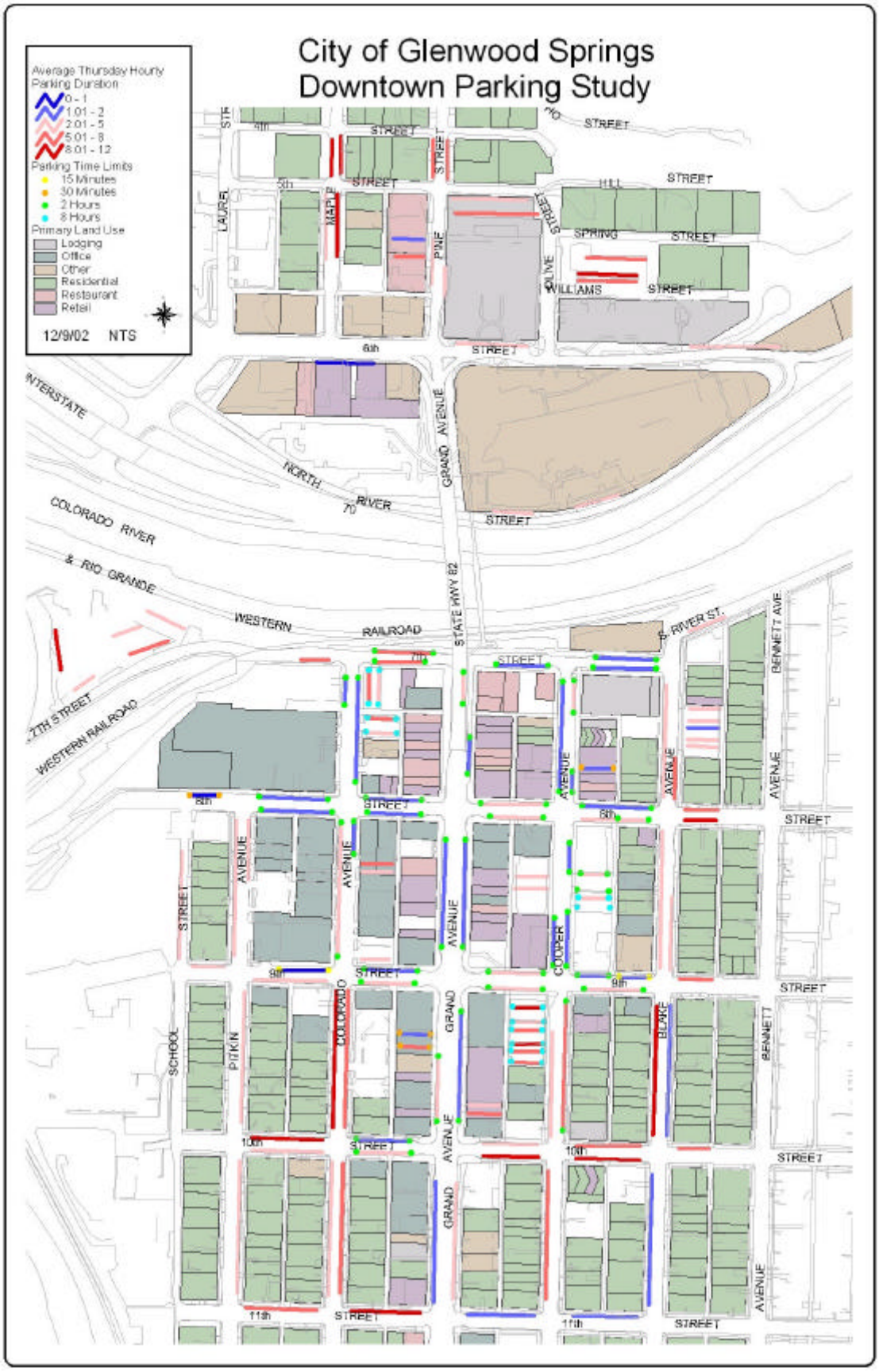

City of Glenwood Springs
Downtown Parking Study
Saturday Percent Parking Occupied at 12:00 pm
0 - 0.35
0.35 - 0.6
0.6 - 0.85
0.85 - 0.93
0.93 - 1.5
Parking Time Limits
15 Minutes
30 Minutes
2 Hours
8 Hours
Primary Land Use
Lodging
Office
Other
Residential
Restaurant
Retail
12/9/02 NTS
INTERSTATE 70
NORTH RIVER
COLORADO RIVER
S. RIO GRANDE
WESTERN RAILROAD
W. 7TH STREET
STATE HWY 82
GRAND AVENUE
LAUREL STREET
MAPLE STREET
PINE STREET
OLIVE STREET
WILLIAMS STREET
SPRING STREET
HILL STREET
S. RIVER ST.
BENNETT AVE.
COOPER AVENUE
BLAKE AVENUE
COLORADO AVENUE
PITKIN AVENUE
SCHOOL STREET
4th STREET
6th STREET
7th STREET
8th STREET
9th STREET
10th STREET
11th STREET


City of Glenwood Springs
Downtown Parking Study
Average Saturday Hourly Parking Duration
0 - 1
1.01 - 2
2.01 - 5
5.01 - 8
8.01 - 12
Parking Time Limits
15 Minutes
30 Minutes
2 Hours
8 Hours
Primary Land Use
Lodging
Office
Other
Residential
Restaurant
Retail
12/9/02 NTS
LAUREL STREET
MAPLE STREET
PINE STREET
OLIVE STREET
HILL STREET
SPRING STREET
WILLIAMS STREET
GRAND AVENUE
NORTH RIVER STREET
COLORADO RIVER
& RIO GRANDE WESTERN RAILROAD
STATE HWY 82
S. RIVER ST.
BENNETT AVE
PALMER STREET
COOPER AVENUE
BLAKE AVENUE
BENNETT AVENUE
SCHOOL STREET
PITKIN AVENUE
COLORADO AVENUE
4th
5th
6th
8th
9th
10th
11th


City of Glenwood Springs
Downtown Parking Study
Parking Survey Routes
Parking Survey Zones
A
B
C
D1
D2
Primary Land Use
Lodging
Office
Other
Residential
Restaurant
Retail
12/9/02 NTS
Starting Point
Starting Point
INTERSTATE
COLORADO RIVER
NORTH RIVER
WESTERN RAILROAD
W. 7TH STREET
WESTERN RAILROAD
BENNETT AVE.


City of Glenwood Springs
Downtown Parking Study
Thursday Percent Parking Occupied at 1:00 pm *
0 - 0.35
0.35 - 0.6
0.6 - 0.85
0.85 - 0.93
0.93 - 1.5
Parking Time Limits
15 Minutes
30 Minutes
2 Hours
8 Hours
Primary Land Use
Lodging
Office
Other
Residential
Restaurant
Retail
12/9/02 NTS
INTERSTATE
NORTH RIVER STREET
70
COLORADO RIVER
& RIO GRANDE WESTERN RAILROAD
W. 7TH STREET
WESTERN RAILROAD
GRAND AVENUE
STATE HWY 82
LAUREL
MAPLE
PINE
OLIVE
HILL STREET
SPRING STREET
WILLIAMS STREET
6th STREET
7th STREET
8th STREET
9th STREET
10th STREET
11th STREET
SCHOOL STREET
PITKIN AVENUE
COLORADO AVENUE
COOPER AVENUE
BLAKE AVENUE
BENNETT AVENUE
RIVER ST.


City of Glenwood Springs
Downtown Parking Study
Parking Demand vs. Supply for Various Areas
Zone B - 100%
Zone C - 98%
Zone D1 - 58%
Zone D2 - 37%
Average of above - 75%
82%
69%
Zone A - unknown
Primary Land Use
Lodging
Office
Other
Residential
Restaurant
Retail
12/9/02 NTS
GRAND AVENUE
COLORADO RIVER
DENVER
RIO GRANDE
WESTERN RAILROAD
STATE HWY 82
COOPER
COLORADO
BLAKE
PALMER
ROARING FORK RIVER


City of Glenwood Springs
Downtown Parking Study
Average Thursday Hourly Parking Duration
0 - 1
1.01 - 2
2.01 - 5
5.01 - 8
8.01 - 12
Parking Time Limits
15 Minutes
30 Minutes
2 Hours
8 Hours
Primary Land Use
Lodging
Office
Other
Residential
Restaurant
Retail
12/9/02 NTS
INTERSTATE 70
NORTH RIVER
COLORADO RIVER
& RIO GRANDE
WESTERN RAILROAD
7TH STREET
WESTERN RAILROAD
STATE HWY 82
GRAND AVENUE
LAUREL STREET
MAIN STREET
PINE STREET
OLIVE STREET
WILLIAMS STREET
SPRING STREET
HILL STREET
6th STREET
5th STREET
4th STREET
7th STREET
8th STREET
9th STREET
10th STREET
11th STREET
COLORADO AVENUE
COOPER AVENUE
BLAKE AVENUE
BENNETT AVENUE
SCHOOL STREET
PITKIN STREET
S. RIVER ST.

Appendix C: Downtown Parking Questionnaire

1. Parking Questionnaire
2. Questionnaire Results

LOCATION: _____
TIME OF ARRIVAL: _____
LICENSE PLATE: _____

1) Male Female
2) Driver Passenger

Hello:

I am conducting a survey for the City of Glenwood Springs regarding Parking issues. Would you mind answering a few questions.

3) What was the purpose of this trip to downtown Glenwood?
   a) ____ Shopping
   b) ____ Work
   c) ____ Social meeting with friends
   d) ____ Recreation

4) What is your destination? _____
   (for survey)
   a) _____ less than one block
   b) _____ one to two blocks
   c) _____ two to three blocks

5) On a scale of one to ten with (1) being convenient and (10) being very inconvenient please rate your parking to destination satisfaction.

1 2 3 4 5 6 7 8 9 10

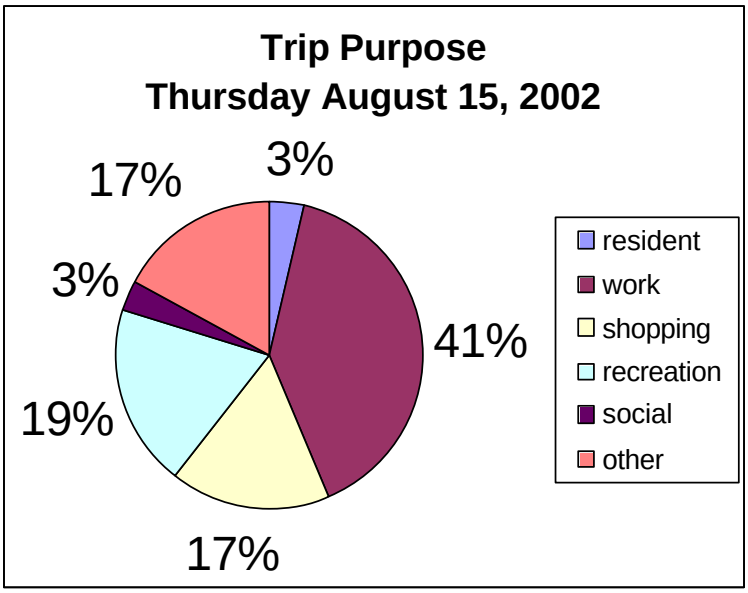
6) Where did the trip originate? (Where did you come from previous to parking here?)
   a) ___ 1 block
   b) ___ 2 – 5 blocks
   c) ___ 5 – 10 blocks
   d) ___ More than 10 within Glenwood Springs City limits
   e) ___ Carbondale to Glenwood
   f) ___ El Jebel to Glenwood
   g) ___ Further upvalley than El Jebel
   h) ___ New Castle to Glenwood
   i) ___ Silt to Glenwood
   j) ___ Rifle to Glenwood
   k) ___ Further downvalley than Rifle
   l) ___ Out of area guest

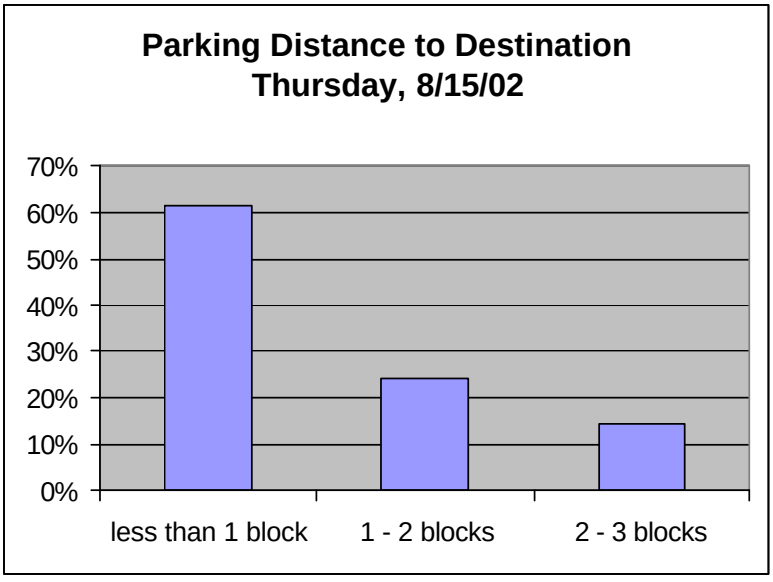
7) How long do you plan on staying downtown?

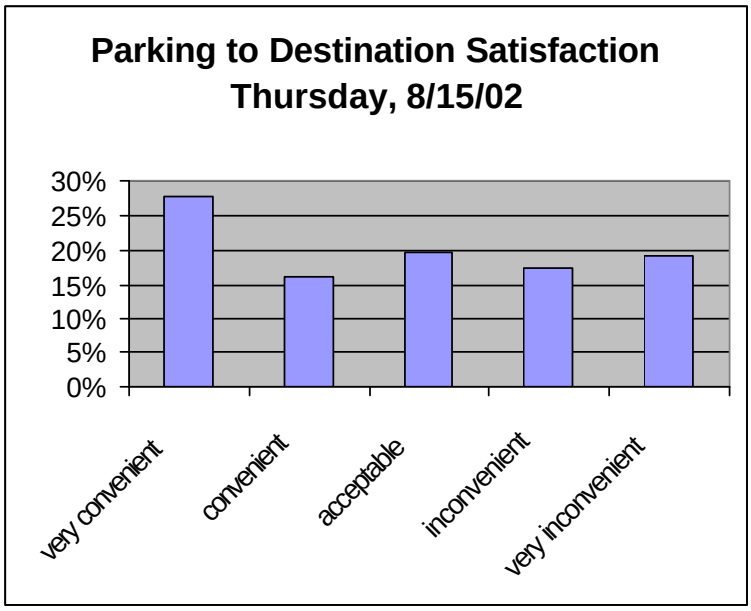
a) ___ Less than 1 hour
b) ___ 1 – 2 hours
c) ___ 3 – 4 hours
d) ___ Work day (8 hours)
e) ___ More than 8 hours

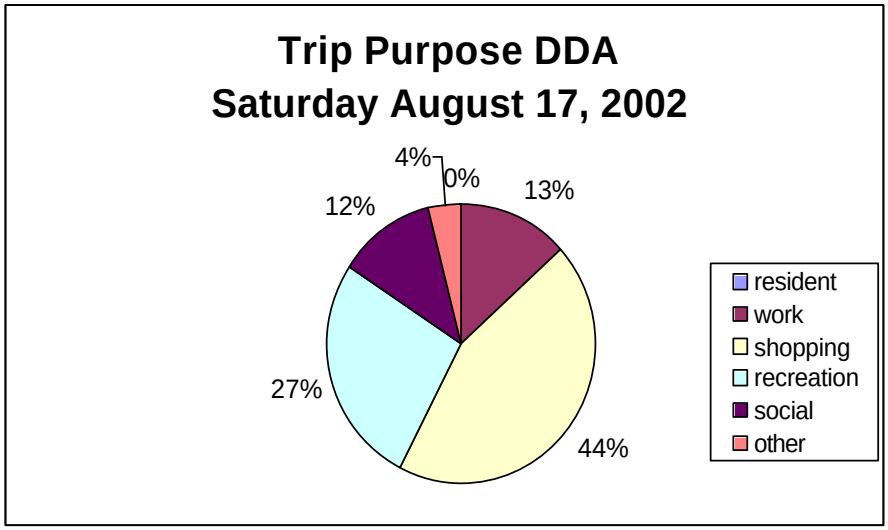
THANK YOU!

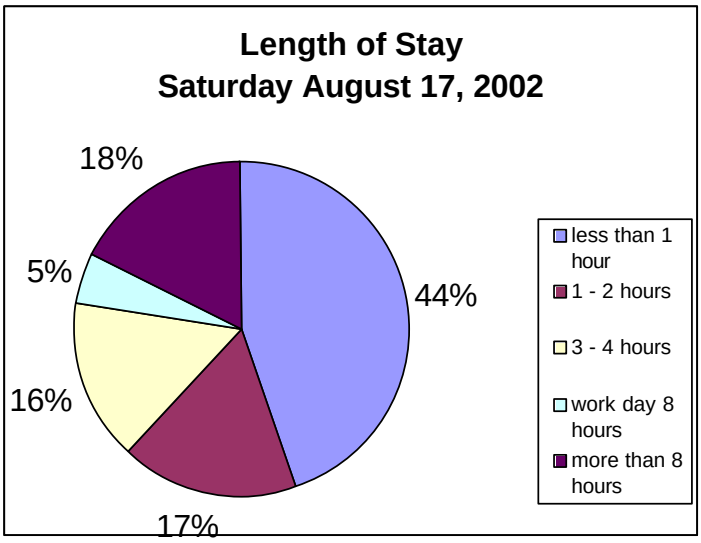
Parking Questionnaire Results

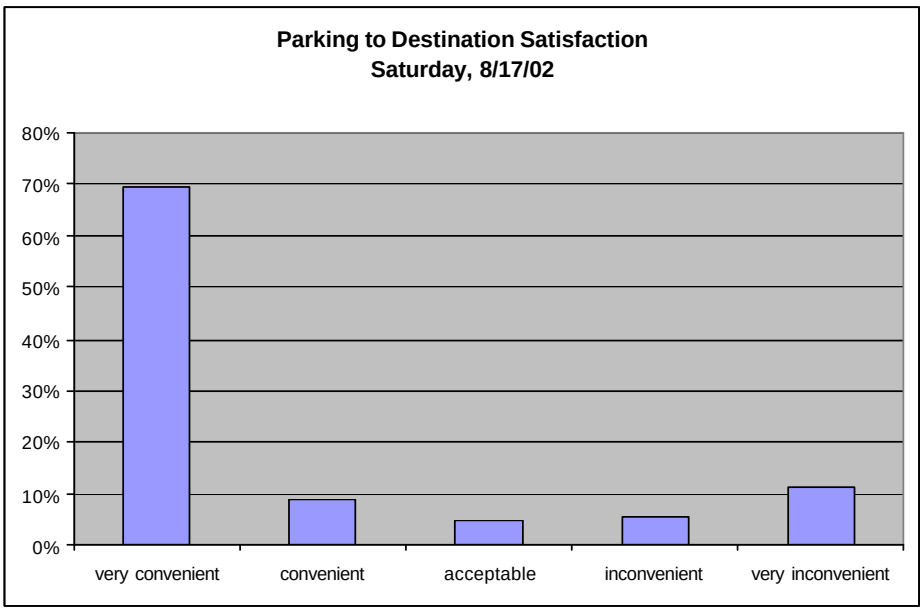


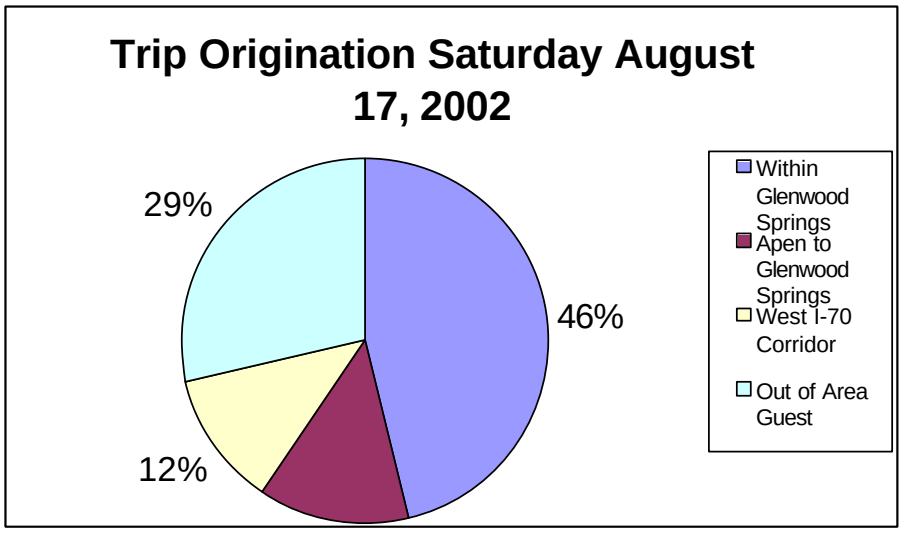


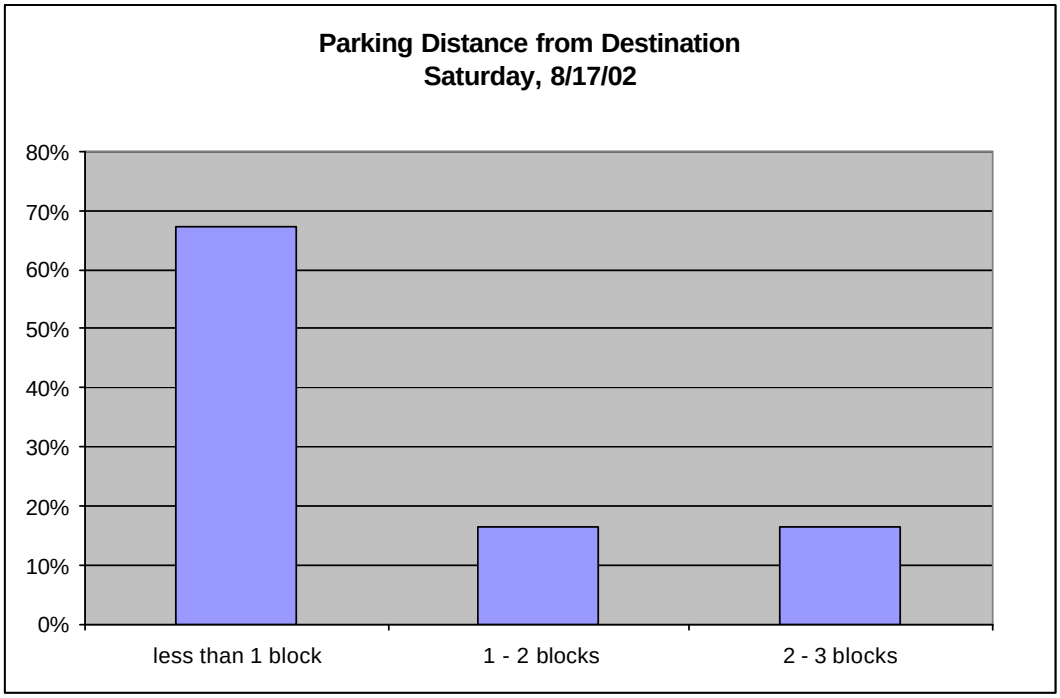

Parking to Destination Satisfaction
Thursday, 8/15/02
30%
25%
20%
15%
10%
5%
0%
very convenient
convenient
acceptable
inconvenient
very inconvenient


Trip Purpose DDA
Saturday August 17, 2002
4%
0%
13%
12%
27%
44%
resident
work
shopping
recreation
social
other


Length of Stay
Saturday August 17, 2002
18%
5%
44%
16%
17%
less than 1 hour
1 - 2 hours
3 - 4 hours
work day 8 hours
more than 8 hours


Parking to Destination Satisfaction
Saturday, 8/17/02
80%
70%
60%
50%
40%
30%
20%
10%
0%
very convenient
convenient
acceptable
inconvenient
very inconvenient


Trip Origination Saturday August 17, 2002
29%
46%
12%
Within Glenwood Springs
Apen to Glenwood Springs
West I-70 Corridor
Out of Area Guest


Parking Distance from Destination
Saturday, 8/17/02
80%
70%
60%
50%
40%
30%
20%
10%
0%
less than 1 block
1 - 2 blocks
2 - 3 blocks

Appendix D: Example of Guidelines for Issuance of Residential Permits

City of Glenwood Springs
Policies for Issuance and Use of Free Residential Parking Permits

1. The area eligible for issuance of residential parking permits will be as follows:

   Pitkin Avenue - 800 and 900 blocks
   Colorado Avenue - 700, 800 and 900 blocks
   Grand Avenue - 700, 800 and 900 blocks
   Cooper Avenue - 700, 800 and north half of 900 block (addresses 900 thru 916)
   Blake Avenue - 700 block
   7th Street - 200, 300 and 400 blocks
   8th Street - 100, 200, 300 and 400 blocks
   9th Street - 100, 200, 300 and 400 blocks
   10th Street - 200 block

2. Up to two resident permits and one guest permit will be issued to each legal dwelling unit with an address within the eligible area. (Permits will not be issued to business owners or employees who do not live at the place of business.)

3. A legal dwelling unit can be a single family residence, townhome, residential condominium, apartment unit, duplex/triplex unit, or accessory dwelling unit.

4. Parking permits will be valid for a time period specified on the permit. Initial parking permits will be valid for a period between 6 and 12 months, depending upon the location. Renewal permits will be issued for the subsequent 12-month period. Permits may be renewed anytime within 30 days prior to the expiration of the permit. Old permits must be turned in to the City concurrently with the issuance of a new permit. (This idea is intended to stagger the renewal time so that not all permits are up for renewal at the same time.)

5. A database of addresses eligible for a parking permit will be developed. Applicants for a residential parking permit (including renewal of a permit) will be required to present proof of residency within the permit area by presenting documentation verifying their place of residence, such as a current drivers license, current lease, etc. Applicants will also be required to furnish a copy of the vehicle registration(s) indicating the license plate number(s) of the vehicle(s) on which the residential permit will be displayed. Permits will not be issued for improperly licensed vehicles.

6. Parking permits will be designated for use only in the block in which the resident lives (for example, someone who lives at 888 Pitkin will receive a permit to park anywhere in the 800 block of Pitkin). The valid block will be indicated on the permit. Parking permits will not be issued for specific parking spaces, but instead will be valid for any space in the designated block. Specific parking spaces will not be reserved.

7. Where extenuating circumstances make it infeasible for a resident to park within the block in which they live, a permit may be issued for use in a designated adjoining block or parking lot.

8. A $10 fee will be charged for replacement of a lost residential or guest parking permit.

9. Parking permits shall be displayed on the driver side dashboard or windshield (or other prominent location as near as possible to such location) clearly visible to parking enforcement officers. Display of residential parking permit will exempt a vehicle from 2-hour parking restrictions. Permits are not valid in 15-minute or 30-minute parking zones, nor in handicap parking spaces.

10. Parking permits shall not be sold or leased. Residential parking permits may be used only by the residents of dwelling units within the eligible area.

11. Parking permits remain the property of the City and shall be returned to the City upon request. When a resident moves from the parking permit area, the permit shall be returned to the City.

12. Guest permits shall not be sold or leased. Guest permits may be loaned to visitors for use only while the guest is visiting the host address. Guest permits may be used for no more than 5 consecutive days and for no more than 10 days total in any month.

13. Permits will be available from the Police Dept. at City Hall (Garden level, 101 W. 8th Street).

14. Improper use of parking permits will be grounds for revocation of the permit. Vehicles displaying revoked permits will be subject to issuance of a citation as if no parking permit were displayed.

For further information, please contact the Transportation Manager in the Engineering Department at 384-6437, or the Police Department at 384-6500.